

## ABSTRACT

[0198] An apparatus and a method for manufacturing semiconductor devices implemented with improved steps of forming a sealant resin layer on the surface of a wafer substrate provided thereon with protruded electrodes. Through process steps of sending driving signals to a stage unit and discharging head based on the comparison with stage position information from stage position detector, and controlling the position of a substrate holding unit with the suction held semiconductor wafer substrate and the scanning movements of discharging mechanism such that minute liquid droplets of raw sealant resin are suitably discharged from discharging head, a raw sealant resin layer is formed on the surface the wafer substrate except the area for forming bump electrodes. The raw sealant resin layer is subsequently hardened to form a sealant resin layer. The reduction of manufacturing costs, and more precise control of location and thickness of the sealant resin become feasible by the method disclosed herein.